

WE CLAIM AS OUR INVENTION:

1. A method for minimally invasive treatment of a prostate tumor comprising the steps of:

introducing a patient having a prostate pathology into a magnetic resonance imaging apparatus and obtaining an image of the prostate by magnetic resonance imaging;

if said prostate pathology is identifiable in said prostate image, retaining said patient in said magnetic resonance imaging apparatus and conducting a magnetic resonance-guided biopsy to obtain a biopsy sample from a region of the prostate in which said prostate pathology is identified;

immediately performing a histology on said biopsy sample to obtain a histology result;

if said histology result is positive, injecting, while said patient is in said magnetic resonance imaging apparatus, a local prostate cancer therapeutic agent into said region of said prostate with magnetic resonance guidance and obtaining at least one further magnetic resonance image to determine whether said therapeutic agent has covered a region in said prostate containing said pathology;

removing said patient from said magnetic resonance imaging apparatus and, after a waiting time, conducting a follow-up examination of said patient to determine whether a change in said prostate pathology has occurred; and prescribing further treatment for said patient dependent on said follow-up examination.

2. A method as claimed in claim 1 comprising the additional step, before introducing said patient into said magnetic resonance imaging apparatus of conducting a pre-screening of said patient to determine whether said patient is at risk of having prostate cancer.

3. A method as claimed in claim 2 wherein said pre-screening includes measurement of a PSA value of said patient.

4. A method as claimed in claim 3 comprising the step of introducing said patient into said magnetic resonance imaging apparatus only if said patient has a PSA value greater than 5.

5. A method as claimed in claim 1 comprising maintaining said patient in said magnetic resonance imaging apparatus while said histology is being performed.

6. A method as claimed in claim 1 comprising injecting a locally acting cell toxin into said patient as said local prostate cancer therapeutic agent.

7. A method as claimed in claim 6 wherein said locally acting cell toxin is an embolizer.

8. A method as claimed in claim 7 wherein said embolizer is selected from the group consisting of pure ethanol, pure ethoxy scleral, ethanol mixed with water, ethoxy scleral mixed with water, ethanol and ethoxy scleral mixed together, and ethanol, ethoxy scleral and water mixed together.

9. A method as claimed in claim 6 wherein said locally acting cell toxin is a cytostatic therapeutic agent.

10. A method as claimed in claim 9 wherein said cytostatic therapeutic agent is selected from the group consisting of pure mitomycin C, cisplatin, 5-FU fluoruracil, and mixtures of mitomycin C, cisplatin and 5-FU fluoruracil.

11. A method as claimed in claim 1 comprising mixing said local prostate cancer therapeutic with a magnetic resonance contrast agent prior to injection into said patient.

12. A method as claimed in claim 11 comprising mixing said local prostate cancer therapeutic agent with Gd-DPPA in water as said contrast agent.

13. A method as claimed in claim 1 comprising mixing said local prostate cancer therapeutic agent with a local anaesthetic prior to injection into said patient.

14. A method as claimed in claim 1 comprising mixing said local prostate cancer therapeutic agent with hormones prior to injection into said patient.

15. A method as claimed in claim 1 comprising, in said follow-up examination, subjecting said patient to at least one of a PSA value measurement, an ultrasound scan and a magnetic resonance examination.

16. A method as claimed in claim 1 wherein the step of prescribing further treatment comprises prescribing a treatment selected from the group consisting of chemotherapy, radiation therapy and surgery.

17. A method as claimed in claim 1 wherein the step of prescribing further treatment comprises repeating the step of injecting said local prostate cancer therapeutic agent into said patient.